AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes comprising one or more processing units, the method comprising:

selecting, from the firewall cluster within the single network, ~~one of the~~ a first firewall ~~nodes~~ node for processing a first packet;

receiving, at a first ~~processor~~ processing unit associated with the ~~selected~~ first firewall node, the first packet;

modifying, by the first ~~processor~~ processing unit, as a function of a multidimensional space for representing addresses processed by a set of ~~data processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the first firewall node; ~~and~~

selecting, from the firewall cluster within the single network, a second firewall node for processing a second packet;

receiving, at a second processing unit associated with the second firewall node, the second packet;

modifying, by the second processing unit, as a function of a multidimensional space for representing addresses processed by a set of processing units, a first address for the second packet into a second address for the second packet,

the second address being within a range of addresses assigned only to the second firewall node, such that the second address of the second packet does not conflict with the second address of the first packet;

forwarding the first packet based on the second address of the first packet; and

forwarding the second packet based on the second address of the second packet.

2. (Original) The method of claim 1, further comprising:

using an N-tuple space as the multidimensional space.

3. (Currently Amended) The method of claim 2, further comprising:

assigning to the first ~~processor~~ processing unit a first region based on the N-tuple space.

4. (Currently Amended) The method of claim 3, further comprising:

using the first address of the first packet, such that the first address represents a point within the first region.

5. (Original) The method of claim 4, further comprising:

using N address values as the N-tuple, such that the N address values represent the point.

6. (Original) The method of claim 2, further comprising:

using the N-tuple space, such that N is equal to a value of at least two.

7. (Currently Amended) The method of claim 3, further comprising:

assigning to a second ~~processor~~ processing unit a second region based on the N-tuple space, such that the first region is separate from the second region.

8. (Cancelled).

9. (Cancelled).

10. (Currently Amended) A method for addressing packets associated with a plurality of ~~processors~~ processing units, each ~~processor~~ processing unit being associated with one of a plurality of firewall nodes in a firewall cluster within a single network, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining, by the first ~~processor~~ processing unit, whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit, wherein the N-tuple space assigned to each of the plurality of processing units is different;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; ~~and~~

determining ~~a modified N-tuple address~~, when ~~it is determined that~~ the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit, a modified N-tuple address based on the N-tuple space assigned to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other plurality of processing units; and

sending the packet based on the modified N-tuple address.

11. (Original) The method of claim 10, wherein the reading step further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

12. (Original) The method of claim 11, wherein the reading step further comprises:

reading at least a source port.

13. (Currently Amended) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based on a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

14. (Currently Amended) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first ~~processor~~ processing unit.

15. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

16. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function and a modulo division.

17. (Currently Amended) The method of claim 10, wherein the step of determining the modified N-tuple further comprises:

adding a value to the N-tuple address, such that the modified N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit.

18. (Original) The method of claim 14, wherein the step of determining the modified N-tuple address further comprises:

modifying the N-tuple address based on the quadrant identifier value.

19. (Cancelled)

20. (Cancelled).

21. (Currently Amended) The method of claim 10, further comprising:

using a computer as the first ~~processor~~ processing unit.

22. (Currently Amended) The method of claim 10, further comprising:

using a router as the first ~~processor~~ processing unit.

23. (Cancelled).

24. (Currently Amended) A method of addressing packets in a firewall cluster within a singe network, wherein the firewall cluster comprises a set of ~~processors~~ processing units, each ~~processor~~ processing unit being associated with a firewall node, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

determining ~~a modified N-tuple address~~, when the quadrant identifier does not correspond to the first ~~processor~~ processing unit, a modified N-tuple address that corresponds to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units; and

sending the packet based on the modified N-tuple address.

25. (Currently Amended) The method of claim 24, further comprising:

assigning each of the set of ~~processors~~ processing units a firewall node number.

26. (Currently Amended) The method of claim 25, further comprising:

determining whether the N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier and the firewall node number.

27. (Currently Amended) A system for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the system comprising:

means for selecting, from the firewall cluster within the single network, ~~one of the~~ a first firewall ~~nodes~~ node for processing a first packet;

means for receiving, at a first ~~processor~~ processing unit associated with the ~~selected~~ first firewall node, the first packet;

means for modifying, as a function of a multidimensional space for representing addresses processed by a set of ~~data processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the first firewall node; ~~and~~

means for selecting, from the firewall cluster within the single network, a second firewall node for processing a second packet;

means for receiving, at a second processing unit associated with the second firewall node, the second packet;

means for modifying, as a function of a multidimensional space for representing addresses processed by a set of processing units, a first address for the second packet into a second address for the second packet, the second address being within a range of addresses assigned only to the second firewall node, such that the second address of the second packet does not conflict with the second address of the first packet;

means for forwarding the first packet based on the second address of the first packet; and

means for forwarding the second packet based on the second address of the second packet.

28. (Currently Amended) A system for addressing packets associated with one or more ~~processors~~ processing units, each ~~processor~~ processing unit being associated with a firewall node in a firewall cluster within a single network, the system comprising:

means for selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

means for receiving, at the first ~~processor~~ processing unit, the packet;

means for reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

means for determining whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit, wherein the N-tuple space assigned to each of the processing units is different;

means for sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

means for determining ~~a modified N-tuple address~~, when ~~it is determined that~~ the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit, a modified N-tuple address based on the N-tuple space assigned to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units;

and sending the packet based on the modified N-tuple address.

29. (Currently Amended) A firewall cluster within a single network including ~~one or more~~ firewall nodes associated with ~~one or more processors~~ processing units, comprising:

means for selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

means for receiving, at the first ~~processor~~ processing unit, the packet;

means for reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

means for determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

means for determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

means for sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

means for determining ~~a modified N-tuple address~~, when the quadrant identifier does not correspond to the first ~~processor~~ processing unit, a modified N-tuple address that corresponds to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units;

and sending the packet based on the modified N-tuple address.

30. (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with one or more ~~processors~~ processing units, said system comprising:

at least one memory comprising:

code that selects, from the firewall cluster within the single network, ~~one of the~~ a first firewall ~~nodes~~ node for processing a first packet, the ~~selected~~ first firewall node including a first ~~processor~~ processing unit;

code that receives, at the first ~~processor~~ processing unit, the first packet;

code that modifies, as a function of a multidimensional space for representing addresses processed by a set of data ~~processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the ~~selected~~ first firewall node; ~~and~~

code that selects, from the firewall cluster within the single network, a second firewall node for processing a second packet; the second firewall node including a second processing unit;

code that receives, at the second processing unit, the second packet;

code that modifies as a function of a multidimensional space for representing addresses processed by a set of processing units, a first address for the second packet into a second address for the second packet, the second address being within a range of addresses assigned only to the second firewall

node, such that the second address of the second packet does not conflict with the second address of the first packet;

code that forwards the first packet based on the second address of the first packet; and

code that forwards the second packet based on the second address of the second packet; and

at least one ~~processor~~ processing unit for executing the code.

31. (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with ~~one or more processors~~ processing units, the system comprising:

at least one memory comprising:

code that selects, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

code that receives, at the first ~~processor~~ processing unit, the packet;

code that reads, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

code that determines whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit, wherein the N-tuple space assigned to each of the processing units is different;

code that sends the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; ~~and~~

code that determines ~~a modified N-tuple address~~, when ~~it is determined that~~ the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit, a modified N-tuple address based on the N-tuple space assigned to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units;

and sending the packet based on the modified N-tuple address; and

at least one ~~processor~~ processing unit for executing the code.

32. (Original) The system of claim 31, wherein code that reads further comprises:

code that reads as the N-tuple address, a plurality of values from the received packet.

33. (Original) The system of claim 32, wherein code that reads the plurality of values further comprises:

code that reads at least a source port.

34. (Currently Amended) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

35. (Currently Amended) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier corresponds to the first ~~processor~~ processing unit.

36. (Original) The system of claim 35 wherein code that determines whether the N-tuple address of the packet is within the N-tuple space, further comprises:

code that determines the quadrant identifier value based on a hash function.

37. (Currently Amended) A firewall cluster including a plurality of firewall nodes within a single network, the firewall nodes being associated with ~~one or more processors~~ processing units, the firewall cluster comprising:

at least one memory comprising

code that selects, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

code that receives, at the first ~~processor~~ processing unit, the packet;

code that reads, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

code that determines a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

code that determines whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

code that sends the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

code that determines ~~a modified N-tuple address~~, when the quadrant identifier does not corresponds to the first ~~processor~~ processing unit, a modified N-tuple address that corresponds to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units; and

code that sends the packet based on the modified N-tuple address; and

at least one ~~processor~~ processing unit for executing the code.

38. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting ~~one~~, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node being associated with a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit, wherein the N-tuple space assigned to each of the processing units is different;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

determining ~~a modified N-tuple address~~, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit, a modified N-tuple address based on the N-tuple space assigned to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units; and

sending the packet based on the modified N-tuple address.

39. (Currently Amended) The computer-readable storage medium of claim 38, wherein reading further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

40. (Previously Presented) The computer-readable storage medium of claim 39, wherein reading the plurality of values further comprises:

reading at least a source port.

41. (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

42. (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first ~~processor~~ processing unit.

43. (Previously Presented) The computer-readable storage medium of claim 42, wherein determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

44. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

determining ~~a modified N-tuple address~~, when the quadrant identifier does not corresponds to the first ~~processor~~ processing unit, a modified N-tuple address that corresponds to the first processing unit, such that the modified N-tuple address does not conflict with addresses assigned by any of the other processing units;

and sending the packet based on the modified N-tuple address.

45. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes comprising one or more processing units, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes within the single network for processing a first packet, the selected firewall node being associated with a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the first packet;

modifying, as a function of a multidimensional space for representing addresses processed by a set of data ~~processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; ~~and~~

selecting, from the firewall cluster within the single network, a second firewall node for processing a second packet;

receiving, at a second processing unit associated with the second firewall node, the second packet;

modifying, by the second processing unit, as a function of a multidimensional space for representing addresses processed by a set of processing units, a first address for the second packet into a second address for the second packet, the second address being within a range of addresses assigned only to the second firewall node, such that the second address of the second packet does not conflict with the second address of the first packet;

forwarding the first packet based on the second address of the first packet; and

forwarding the second packet based on the second address of the second packet.